

RESTRUCTURING DOD: *STUDY THE HIGH-TECH COMMERCIAL WORLD*

Dr. Walter B. LaBerge

Peter Drucker wrote a delightful article in the February 2, 1993, Wall Street Journal entitled "A Turnaround Primer," which I hope the management of our Department of Defense (DOD) have read and taken to heart. Mr. Drucker suggests that when big businesses are in trouble and fundamental changes are required, internal management seldom can bring itself to do what needs to be done.

Mr. Drucker observes that when the bottom falls out of a big business (witness Sears, GM and IBM), bringing in a new management team is almost always necessary to restructure that business. This new leadership, frequently of outside origin, must first redefine what Drucker calls the corporation's "business theory," the underlying focus which drives all of its subsequent business actions. When it fully understands what needs to be done, this new management sets about restructuring its corporation.

My fear is that a massive restructuring is about to occur within the DOD and those leading this effort will not have the experience to manage that vital but traumatic event. Thus, the intent of this article is to compare the applicability of recent U.S. high-tech corporation experience in dealing with similar business situations and see what lessons can be learned.

This, as one says in the military, is not a drill. Clearly the structure we have in DOD for defense acquisition must undergo major revision, both in its size and in its product orientation. My hope is that considerable knowledge of how to best restructure the department can be gleaned from recent high-tech business parallels.

Dr. LaBerge is a Visiting Professor at the Defense Systems Management College and the University of Texas. He has served as Assistant Secretary General of NATO, Assistant Secretary of the Air Force, Under Secretary of the Army and principal deputy to the Under Secretary of Defense for Research and Engineering. He has held numerous industry positions including Vice President, Corporate Development, for Lockheed.

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The handwriting is on the wall. Our stockholders (the voting public), like those of Sears, IBM and GM, are in revolt. In their last open meeting, November 4, 1992, they threw out the incumbent management, giving to the new management a clear mandate. But the new team must get the nation on a sound financial footing and rapidly redirect its discretionary resources toward national needs of greatest concern.

True enough, different from IBM, GM and Sears, the undoing of our DOD business may not be our fault (in the end we did win in the Gulf and at the Fulda Gap). Yet, the DOD parallel with those companies may be closer than we think. All three of these troubled commercial giants of today were, until recently, the best in their businesses and darlings of the investment community.

The DOD has to understand the difficulties within our high-tech commercial world and how successful U.S. high-tech businesses have managed themselves during equally difficult times. Reviewing the successes and failures of companies like those three, Boeing, and others in times of crisis, can help DOD better address any inevitable restructuring.

SIMILARITY OF BUSINESS ENVIRONMENTS

On the argument that similar environments often demand similar responses, the following list of similarities between the high-tech business and DOD environments are presented. During the last five years in the high-tech business environment there have been an unusually large number of instances where there was a:

1. Substantial and rapid downward shift in the business base responsible for generating the income necessary to sustain current business and to fund new product development;
2. Profound change in the nature of the products needed by high-tech customers, shifting from traditional product lines to new ones made possible by evolving technology and new customer demands;
3. Recognition of an immediate need to readdress new business activities with reduced resources providing product plans consistently meeting new customer needs;
4. Recognition of the need for substantial reduction of operating costs to free up funds for future business investment without raising the debt load which, in turn, led to immediate substantial downsizing;
5. Recognition that while survival of the enterprise mandates these changes, a great many deserving people within the corporation will undergo substantial hardship;

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6. Recognition that if the above measures are taken expeditiously and decisively, the investment community will back allocation of resources to restructuring of the business involved; and
7. Recognition that restructuring of the kind discussed actually works, and that marketplace acceptance of the restructured product positions leads to a healthy business and substantially improved stockholder approval.

If the current business situation of DOD is comparable to high-tech business as represented here, the new DOD management is likely to proceed down the same path.

RESTRUCTURING OBJECTIVES

Restructuring is a purposefully soothing term for an innately violent set of management actions that rapidly change the posture of a company with respect to its business environment. Almost always, restructuring reformulates a balanced, integrated set of new approaches to business in each of the following areas:

- market segment focus,
- future business investment capital allocation,
- operating costs permitted,
- necessary cost reductions,
- formation of favorable business alliances, and then
- total budget commitment - all rigorously enforced.

To explore further the possibility of learning from the similarities between DOD and U.S. high-tech businesses, the first four of these five areas of restructuring are discussed in detail below.

MARKET SEGMENT FOCUS

Commercial businesses, high-tech or other, have long recognized the need for different strategies depending on its marketplace position and the overall economic strength of that marketplace. In particular, the business world understands that strategies employed by companies dominating a market are different than strategies used by those who do not. Also, different commercial strategies are dependent on the ability of their customers to pay for major new equipment. Using the ways of contemporary engineering bureaucracy, the Figure 1 matrix

Historical Parallels		
U.S. High-Technology Businesses		
	Dominant Force	Challenger
"Good Times"	Strategy A	Strategy B
"Poor Times"	Strategy C	Strategy D

Strategy A: Drive competition out with new products
Strategy B: Challenge overall market leader
Strategy C: Marginally improve to protect broad market
Strategy D: Focus on niches in market

Figure 1. Viewpoints

reflects the correlation of these strategies with market position and overall business environment.

As depicted by this matrix, in "good times" the strategy of the dominant business leader must be to bring out new products for prosperous customers. In "good times" the dominant force is required to outspend its opponent efficiently. It can do this because generally it has greater financial strength upon which to draw. In Strategy A, the dominant supplier also uses advantages (cost, technology, etc.) which made it dominant, further increasing its ability to maintain its market lead.

Strategy A is the classic way that the electronics industry of Japan, once it achieved a reliability and product cost containment lead, drove out its U.S. competition in home electronics. Japan then invested to the extent that its lead in televisions, camcorders and the like has yet to be challenged by U.S.-based industry. Strategy A is also the way Boeing achieved dominance in the commercial aircraft business and drove out competitors Lockheed and Fairchild, and may have placed McDonnell-Douglas on the ropes.

Not surprisingly, Strategy A is also the strategy which allowed the United States to beat the Soviet Union. For example, in the air warfare business, the Soviet Military just could not compete with DOD's flood of new Strategy A products. Aircraft like the F-14, F-15, F-16, F-18, F-22, AWACs, B-1, B-2 and the threat of an ATF speak volumes for Strategy A. The same was true for naval ships and army tanks and guns.

However, when times are "poor" things are quite different. When customer orders are slack, and investment capital is scarce, the dominant United States high-tech giants are forced to change strategies. Dominant companies, perforce,

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must move to Strategy C, that of providing its customers with increased capability at reduced cost, using their customer's installed base to their own advantage. The problem with Strategy C for the dominant industry leader generally is a very wide range of customers being solicited by different small companies using Strategy D. Each of these is trying to obtain a niche-hold in the dominant supplier's large business. To combat Strategy D, the large corporation must meter its resources efficiently across the gamut of its businesses. This capability of the dominant supplier to offer upgrades to its customer's installed base is the only way it can afford, in "poor times," to address its wide spectrum of customer needs.

Fortunately, using the customer's installed base can prepare the way for the next round of "good times" when customers can afford to replace major systems in the field. Readiness for "good times" can be simple if the dominant business ensures that preliminary design of future products incorporate, without substantial change, subsystems developed for existing inventory.

What has been described above is the way the commercial aircraft world has always addressed extreme fluctuations in business cycles. Boeing, for example, has always been particularly good at nursing its customers through "poor times" to capitalize on their dependence when "good times" come back. Unfortunately, Strategy C was not the recent strategy followed by IBM, much to its current distress. It appears that IBM continued, long after it should have, to emphasize new mainframe initiatives to an extent that it could not protect the broad spectrum of its business base. Now, IBM sees itself forced out of niches which it did not adequately protect and which now have become increasingly important expanding business areas.

Until recently, DOD appears to have been copying IBM rather than Boeing by staying with the "good times" strategies even though the era of limitless investment capital is clearly over. The military services seem insistent on following Strategy A: design and production of whole new platforms when it is clear they are out-pricing their marketplace. Further, parallel to an IBM over-commitment to elegant mainframes, most Services are attempting to introduce product sophistication well beyond DOD's current needs. The parallel is quite interesting because both IBM and the old DOD seem to have misread their market successes. Unable to believe it could be challenged, especially by the "little people" in its business, IBM lost. The Services and DOD also appear to misread the lessons of the Gulf War and believe that they, too, cannot be challenged effectively by the Third World.

The old DOD does not seem to understand the competition does not wish to compete with the United States on a broad front, but only to keep the country out of its local niche. Further, the old DOD has not realized that the present threat of military force comes not from risk of defeat in battle (as might have been the case at the Fulda Gap). It comes, more likely, from the risk of never deploying DOD forces because battle casualties would exceed the willingness

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of U.S. citizens to underwrite further deployment. Further, the old DOD did not realize, because assessments were still being completed, the advantage we had in weaponry in the Persian Gulf. In no way was Iraq's Soviet-provided material the best of what the USSR had available. However, arms bazaars around the world now sell the best, from what the USSR has to offer and the best of many other non-U.S. armament industries.

In many respects, without any military-industrial complexes of their own, today's independent operators probably can arm themselves better than the Soviets of the olden days. The USSR of yesteryear had to use only the products of its own industrial capacity. The entrepreneuring Third World now can buy from them or the rest of the world, and less perhaps than from us. Worse yet, the financial difficulties of all governments make today's situation more difficult, since they will need substantial volumes of outside sales to produce weaponry economically. While we limit our weapon sales to arming only our friends, those we do not wish to arm find arms salesmen and less-than-friendly Third World markets.

The ability of one country to buy high-quality weapons from others probably has been underestimated substantially. If this is true, the superiority we brought to the Gulf several years ago may be difficult to sustain without a strong effort to respond to improved capabilities of potential enemies. This problem, stated in these terms, doesn't seem much different from that of our high-tech commercial world counterparts.

Back to Drucker's point: a proper business theory is crucial to knowing how to restructure a business. In this sense, the new DOD must formulate what it is trying to do before redefining the acquisition objectives of the Department. That direction is beginning to emerge from the new DOD. To help guide that formulation, a previously published work may be useful.

The National Research Council (NRC) recently assessed the technological opportunities open to the U.S. Army during the coming decades. Before embarking on that study, the NRC attempted to write down the prime objective of an acquisition program in an era of changed threat and reduced budgets. The NRC study suggested three key objectives shown in Figure 2, a briefing chart from that study.

The NRC recommendation that DOD commit to continuous technical superiority of U.S. forces, even in a severely-declining budget environment, reads much like the Strategy C. Such a strategy, if implemented, will permit neither long, drawn out new platform programs nor extensive storage on the shelf of technology not immediately usable.

FUTURE INVESTMENT CAPITAL ALLOCATION

If one believes the principal objective of the new DOD acquisition process will become one of niche-influence protection, it becomes easy to guess what the new administration's acquisition emphasis must be. The three fundamental

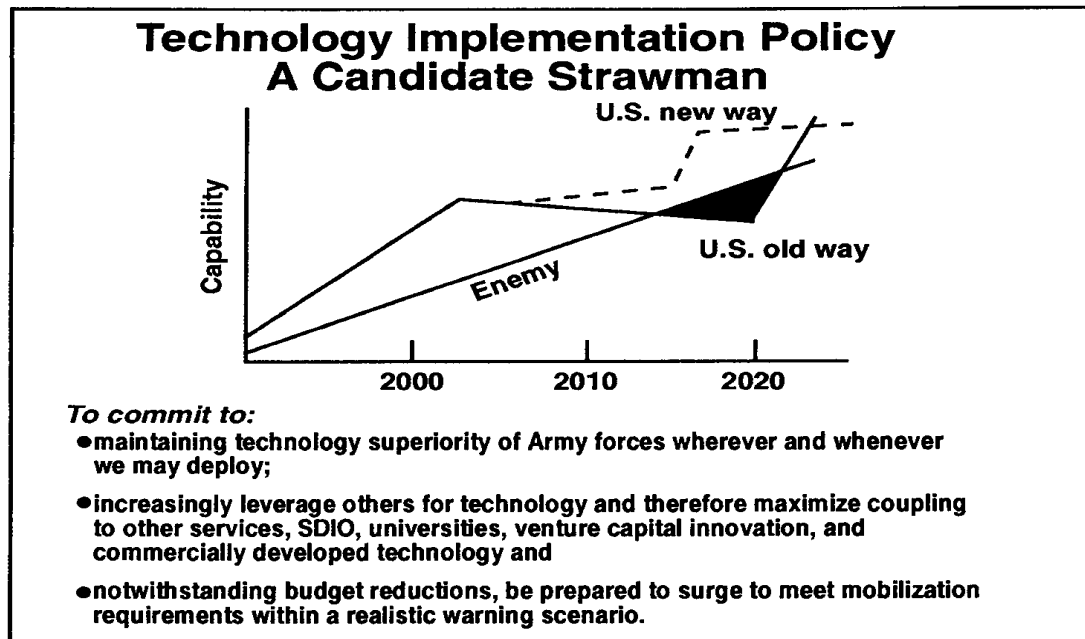


Figure 2. Implementation Policy

requirements of such protection strategies, shown below appear to be not too dissimilar from those of its commercial counterpart:

1. To have exceptionally good intelligence on what our potential adversaries (competition) intend to do and what capabilities they possess;
2. To be able to react quickly (hit the marketplace) upon understanding of a requirement to deploy forces (product); and
3. To possess the capabilities to defeat, quickly and decisively, its enemy at acceptable casualty levels (costs), were conflict necessary.

Even in a period of limited budgets, our armed forces must have these critical capabilities. Whether anything more can be provided to prepare for future threats appears uncertain. This will depend on total acquisition budgets and the costs of responding to the current niche-protection environment.

The ability of the U.S. to deploy its military forces continuously will become more difficult as potential adversaries become able to purchase military equipment of Gulf War quality. Well-financed adversaries will have access to sophisticated armament industries struggling to keep afloat with limited, recession-induced budgets. The classic example of this Third-World ability to acquire and use sophisticated armaments is that experienced by George Custer and his cavalry at the Little Big Horn. Without a defense industrial base of their own,

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the Indians, nevertheless, ended up there with more weapons of superior firepower (i.e., 'Winchesters) than Custer's forces.

If DOD pursues the scenario of required niche-protection, any student of the open literature can guess at a list of probable U.S. acquisition requirements. As a minimum, a potential niche-adversary can be expected to do the following:

- Put at greater risk our first-in ground forces, Army or Marine, by threatening to continue to move forward with heavy armored forces instead of digging in as did Iraq in the Gulf;
- Threaten our fixed-entry installations, both port and airfield based, with attack by theater ballistic missiles armed with either conventional or chemical/biological warheads, or by attack in numbers with cruise missiles of the type the U.S. demonstrated in the Gulf;
- Threaten to escalate probable U.S. casualties by introducing new mining techniques made possible by the ever increasing capability of affordable microprocessor chips; and
- Threatening to restrict fighting to urban areas where we now have little capability and where the threat of excessive noncombatant casualties may preclude our willingness to engage.

All of these niche-strategies available to our enemies are open to redress by early use of available advanced technology, faster than an expected acquisition of these capabilities by an adversary. However, these niche responses, typical of Strategy C, cannot be implemented for lack of funds as long as a Strategy A philosophy commands all available funds.

Secretary of Defense Les Aspin conducted an open-book, bottom-up examination of current programs set against priorities of his administration in the selection of programs. These Aspin criteria for DOD priorities are straightforward and believable, and are to support U.S. national interests in a:

- new and dangerous world of expanded nuclear capability,
- world of much regional unrest,
- world requiring support to newly emerging democracies, and
- highly competitive high-tech world where the capability of DOD to compete is inexorably linked to the ability of U.S. commercial high-tech enterprises to dominate their marketplaces.

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These Aspin foci are not inconsistent with Strategy C.

**OPERATING COSTS PERMITTED AND NECESSARY
COST REDUCTIONS**

Experience has shown that the hardest things to accomplish in any commercial downsizing are cutting personnel substantially and simplifying organization structure. Organizational change, though intended to simplify, inevitably seems to add additional layers to the existing organization.

How will the Secretary approach any organizational change? Dimensions of the task ahead are reflected in the charts in Figure 3 which show the drawdown anticipated by the Bush Administration at the time of budget submission. The situation shown will probably be much worse since both the Bush and Clinton administrations announced further cuts. The first chart shows the drawdown by manpower category: government civilian, uniformed and industrial base. The second chart shows the particularly horrendous hit taken by major industrial producers..

The information on these charts has been used to argue for improving the defense industrial base, which, though well intentioned, probably cannot be championed in the present budget environment. However, to the corporate downsizer another message is clear, the civilian staff which supports a decreasing military force is going down far slower than that fighting force. The civilian force is, however, decreasing infinitely more slowly than the force which produces the equipment for the fighting forces. To the experienced corporate downsizer, this disparity indicates a runaway overhead expansion of life-threatening character to any corporation. It clearly would be the Secretary's first area of attention in a restructuring.

Industry can provide valuable insight on how to cut overhead costs. Some techniques follow:

1. Reduce vertical integration within a corporation, (i.e., examination of functions which might, from a cost-effectiveness standpoint, be better performed by a competitive nongovernment supplier). Examples of where major savings might be achieved are:
 - a. Full civilianization of schoolhouse functions where military expertise and equipment function and usage are taught by mixed staffs of civilians and military;
 - b. Expansion of civilianization of technical functions performed within the Services to capitalize on the longer career opportunities open to civilians; and,

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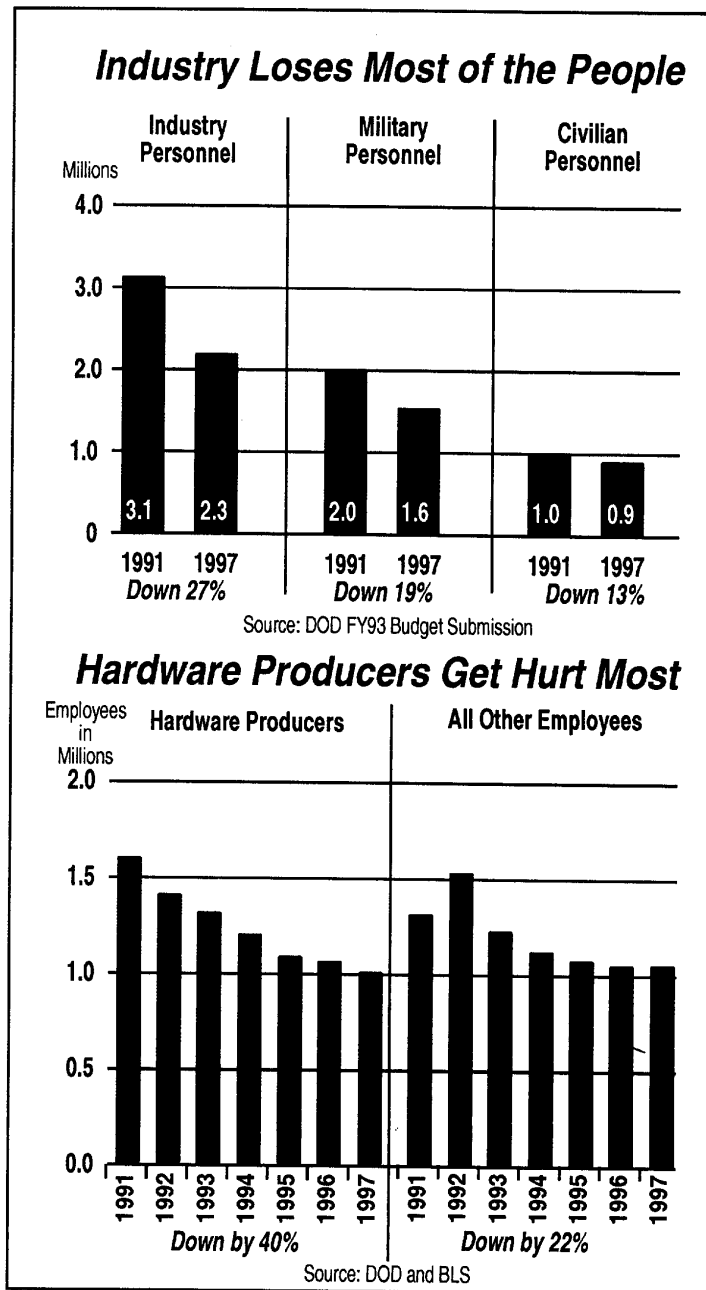


Figure 3. Defense Budget Outlook

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- c. Reduction of Service-connected, intermediate maintenance functions consistent with contemporary civilian practice, industry commitment to increased equipment durability and expected comparatively short-term force deployments.
2. Address organizational changes in a conceptual top-down manner, streamlining business methods rather than the same structural way.
3. Reduce the number of infrastructure facilities performing the same function. Be ruthless in ignoring the nuances of rationale that allowed them to survive previous cost-cutting exercises. (An example is consolidating the Service infrastructures for guided missile development — a difficult, but probably necessary, merger).
4. Provide those involved with change motivation to help rather than resist. Consider the touchy case of Service golf courses. As a matter of principle, one might expect the number of Service-operated golf courses to be reduced in proportion to the number of Service personnel allowed by new budgets. Not so. There being no benefit (sales proceeds revert to the U.S. Treasury) to the losing organization, considerable opposition can be expected. Yet, if the fair land value of excess golf courses could be exchanged for training areas, an immediate accommodation could be expected.

None of these proposed restructuring initiatives will be popular. If they were palatable, they would have been accomplished long ago. However, a massive change in balance between product (fighting units and factories) and overhead must be accomplished within DOD. This task traditionally has been extremely difficult for government institutions to do from within, and difficult and ineffective to define by part-time committees on the outside.

A suggestion in keeping with the general theme of this essay is to bring into DOD, for one year, a team of battle-tested, industry-restructuring experts. They would provide the Secretary with proposals on how to downsize DOD in a way one might if it were industry instead of government. To make such a scheme work, temporary relief from some of the conflict-of-interest provisions of the Congress and White House might have to be sought. Similarly, downsizing of administrative functions without ruining their ability to respond to legitimate needs may require relief from certain statutes and personnel policies during the period of most intense downsizing.

FORMATION OF FAVORABLE BUSINESS ALLIANCES

At least two different opportunities to form beneficial alliances in DOD acquisition can be drawn from the experiences of IBM and Boeing. Each alliance is

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of a different nature and examples of other forms of alliances doubtlessly can be drawn from more in-depth looks at this subject.

Beyond this look at what industry has done within its confines, an intense cooperative link between commercial institutions and the military is also foreseen by the Clinton Administration. Apple and IBM have recently concluded a most unusual agreement. While each company maintains its separate competitive business integrity, programs are underway to ensure compatibility of system architecture, next-generation software interfaces and protocols and, in some cases, hardware. Apple and IBM have come together for one reason; each believes it is to its benefit to do so.

If such cooperation can be achieved between natural business enemies, it ought to be much easier to achieve between organizations of less directly competing interests. A number of such mutually beneficial opportunities to cooperate exist and surely will be pursued by the new administration as a better way to use available funds. Opportunities expected to be first explored through jointly funded projects include:

- commercial producers,
- national laboratories,
- other government departments, and
- among the Services.

Dr. Claire Thorton, Director of the Army Electronic Technology Development Laboratory (ETDL), has implemented a broad set of alliances with university and commercial communities. The DOD might use this ETDL connection as a prototype for DOD-wide application. Evidence in such alliances will be strongly pushed by Aspin and his senior staff. It behooves the Services to ensure that these kinds of alliances are evident in the programs examined in the bottom-up review. Traditional Service reluctance to these kinds of relationships will have to be overcome if their programs are to survive.

Although industry has not excelled at achieving internal organizational cooperation, here too, its experiences in facing organizational reluctance to cooperate may be valuable to DOD and should be sought. The other industrial example presented here is suggested by watching how commercial aircraft producers, like Boeing, conduct business with their next-tier supplier base. Boeing, for example, has had a reputation for not being an easy company with which to work as a supplier. However, despite that reputation, Boeing continues to have a broad base of suppliers who continue to invest their own money into advanced technology, product design and contemporary tooling.

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The 1989 Defense Science Board report provides a useful examination of the applicability of commercial aircraft business practices to DOD, whose relationships DOD should study in detail. In severe budget crunches, it will be important to encourage its subtier suppliers to invest their money in military businesses. The obvious way to accomplish this is to force military use of technology with parts of eventual application to commercial-world applications. Further, this effort to obtain outside investment in DOD business can also be accelerated by upgrading current military hardware.

CONCLUSIONS

Long articles usually merit short summaries. Hopefully, the salient points can be provided thusly.

The principal thesis of this essay echoes the introductory thoughts of Peter Drucker, that restructuring is hard to do when led by current management. Though new senior officials will define this restructuring, most of the details will have to be implemented with staff currently in place. This article points out that the experiences of the U.S. commercial high-tech world in similar situations can be helpful to DOD in its own restructuring.

Analysis presented in this article suggests that the situations are similar enough to merit close scrutiny, especially in the areas of product strategies, cooperative programs, and downsizing techniques. Therefore, the premise of this article is that people concerned with DOD downsizing learn as much as possible from past equivalent actions which attacked nearly the same problems DOD faces today.